DOCUMENTATION OF THE SYSTEM

- Purpose of the document:

  This document serves as a tool for a more in-depth view of the structure of the program that handles the Organ clinic, its database and its functions.

- Project Scope:
  The project focuses on creating an application that allows the patients and the doctors to have a safe and effective method of regular day to day activities in the clinic which otherwise would have to be done by an individual.

- System requirements
  - The system includes key functionalities that ensure its basic operation. These include a user registration and authentication mechanism, providing secure access for both patients and doctors. Additionally, the system allows for the storage and management of detailed information regarding available organs, as well as the data of registered doctors and patients. Both patients and doctors can access the system, enabling them to consult and update information related to donation processes or medical follow-ups.

    Regarding the non-functional requirements, the system features a user-friendly interface that enhances the user experience. It is developed using technologies such as Java and SQL, which ensure efficient data management and robust programming. To maintain data integrity, restrictions are implemented to prevent the duplication of organ or user registrations. Furthermore, the system is optimized to execute commands in under two seconds, ensuring a fast and efficient response time.

    All these requirements are meant to have a more user-friendly experience for the users as well as a safe environment to save your own data with only the appropriate people having access to their personal data.

- Database design

The database has various entities: Patient, Organ, Doctor, Nurse, Operation, Treatment and blood. They are designed in a way that allows for a cohesive and functional program which emulates a real-life version of what an organ clinic would be.

- Functionality Description
  - User Managment:
    The role of user is assigned upon sign-up, which gives access to the respective menus. This separation allows for the patient and the doctor to have separate options in terms of what each can do.

- Data Model
  The database is modeled to have 7 entities (Organ, Patient, Doctor, Treatment, Nuers, Blood and Operation) that describe the entirety of the system. The data model related each of these entities with various types of relation methods, including 1-n and n-n relations. For example, we have the n-n relation between organs and patients which states that many patients can be compatible with any organs and vice versa.

- DBBrowser as platform choice
  We chose this platform for the database because we were taught it in class and in combination with Eclipse it made for an easy way to ensure the project works correctly.

- Implementation
  Eclipse (java) allows us to create the actual application related to our database. It lets us interact with its contents and change its information in terms of addition/deletion of patients or scheduling of operations.

- Design Summary

The application starts off with an initial menu which allows users to enter their respective menus, be that doctor or patient. Once inside their corresponding menu,

they can access all the possible choices of actions that they have. In terms of the patient, they have to do with seeing their own information as well as their operation appointments. For the Doctors, they can do all the logistics that have to be undergone for an operation to occur as well as the addition or deletion of new patients.

- Conclusion

  For Future updates in the application, we expect to allow the nurse to become an actor in the system and manage some of the workload appointed to the doctor to create a more efficient and labor friendly environment where all work together to make for a higher customer satisfaction.